Please replace the paragraph beginning on page 16, line ~~19~~ 9 with the following:

A method for controlling a recording/reproducing speed of an information disk recording/reproducing device according to claim 8 of the present invention is the method for controlling a recording/reproducing speed of the information disk recording/reproducing device according claim 6 or 7. In each of the areas divided into m divisions, a difference between the counted value at the first rotational speed and the counted value at each of the second, third~~,...~~ through m rotational speeds is expressed by the ~~equation below:~~ terms DAT[1] through DAT[m].

~~DAT[1]~DAT[m]~~

~~(Equation 25)~~

~~a~~ A vibration quantity at this point is approximated by the equation below:

$$\text{VIBRATION QUANTITY} = \frac{1}{4}\sum_{x=1}^{m} |DAT[x]| \qquad \text{(Equation } \sout{26}\ 22\text{)}$$

and a value proportionate to the vibration quantity is used as a vibration detection value.

Counted value data obtained at the first rotational speed where one rotation is divided into six areas, m=6, is expressed by the terms DAT1[1] through DAT1[6] ~~equation below~~.

~~DAT[1]~DAT[m]~~

~~(Equation 32)~~

Please replace the paragraph beginning on page 26, line ~~20~~ 9 with the following:

The control unit 116 controls the disk rotating unit 103 to make a rotation at 4000 rpm. Similarly, the radius direction driving unit 109 is made non-operational. Then, track crossing is caused by an eccentric component + a vibration component between the tracks of the information disk 102 and the reading unit 104. Thus, the counted value of the counting unit 115 is obtained with the code indicating a track cross direction based on the output of the rotational position information output unit 114 for each of the areas obtained by dividing one rotation into six. The obtained counted ~~value is expressed by the equation below~~ values for the second rotational speed where one rotation is divided into six areas, m=6, is expressed by the terms DAT2[1] through DAT2[6].

~~DAT[1]~DAT[m]~~

~~(Equation 33)~~

Please replace the paragraph beginning on page 26, line 20 with the following:

one rotation of the rotational position information into m while rotating the disk rotating unit at a first speed and making the radius direction driving unit non-operational ~~nonoperational~~; counting the pulses of the track cross signal, with the code indicating the track cross direction, to obtain second, third, ... counted values in each of the areas provided by dividing one rotation of the rotational position information into m while rotating the disk rotating unit at one or more kinds of second, third, ... rotational speeds higher than the first rotational speed and making the radius direction driving unit non-operational ~~nonoperational~~; and comparing a difference between the first counted value and the second, third, ... counted values with a predetermined threshold value so as to determine the maximum rotational speed of the information disk while using, as a vibration detection value, a value proportionate to the sum of absolute values of counted values obtained in the areas divided into m.

Please amend the paragraph beginning on page 24, line ~~21,~~ 34 and ending on page 25, line 6, as follows:

Then, the radius direction driving unit 109 is made non-operational ~~nonoperational~~. Track crossing is caused by an eccentric component between the tracks of the information disk 102 and the reading unit 104. Thus, for each area provided by dividing one rotation into m (m is a natural number equal to or larger than 2), the counted value of the counting unit 115 is obtained with the code indicating a track cross direction based on the output of the rotational

(Equation ~~35~~ 27)

$$\text{VIBRATION AMPLITUDE2}\ [n] = \frac{2}{\sqrt{3}}\sqrt{\left|DAT[n]^2 - DAT[n]DAT[n+2] + DAT[n+2]^2\right|}$$

(Equation ~~36~~ 28)

(when n = 1 to 6 and n > 6, n = n – 6 is established).

Please replace the paragraph beginning on page 26, line ~~20~~ 12 with the following:

In order to prevent an increase in the number of calculating steps, approximation is performed in a simplified manner by the equation below.

$$\text{VIBRATION QUANTITY} = \frac{1}{4}\sum_{x=1}^{6}|DAT[x]|$$ (Equation ~~37~~ 29)

Please replace the paragraph beginning on page 33, line 9 with the following:

Counted value data obtained at the first rotational speed where one rotation is divided

Please replace the paragraph beginning on page 38, line 23 with the following:

Measurements are performed as the case where a total number of divisions is m for one rotation. The track cross data of a vibration component for each divided area where one rotation is divided into m areas is expressed by the terms DAT[1] through DAT[m] ~~equation below~~.

~~DAT[1]~DAT[m]~~

~~(Equation 42)~~

Based on the data, vibration amplitude is approximated by the equation below.

$$\text{VIBRATION QUANTITY} = \frac{1}{4}\sum_{x=1}^{m} |DAT[x]|$$ (Equation ~~43~~ 32)

By comparing a vibration detection value obtained by (equation ~~43~~ 32) with a predetermined threshold value, it is decided whether or not reproduction should be performed at the maximum rotational speed.

Please replace the paragraph beginning on page ~~35,~~ 39 line ~~25~~ 5 with the following:

Additionally, a vibration quantity obtained by (equation ~~43~~ 32) includes an error relative to a precise vibration quantity. The error will be described below.

Please replace the paragraph beginning on page ~~35,~~ 39 line ~~25~~ 8 with the following:

As described in Embodiment 2, as the number of divisions increases for one rotation, a vibration quantity expressed by (equation ~~43~~ 32) has a smaller calculated error. However, the number of divisions for one rotation of a rotational position information output unit 114 is limited by hardware. The number of divisions is six or eight when an FG pulse is used.

Please replace the paragraph beginning on page 40, line 25 with the following:

The maximum error occurs when the m division for one rotation is an even number and the counting result is 0 in an area of the part where the track cross direction is reversed. At this point, since the number of divisions for one rotation is m, as shown in FIG. 8(b), regarding the number of traversed tracks before and after the track cross direction is reversed in the area, absolute values are expressed by the equation below.

$$A(1-\cos\frac{\pi}{m})$$

(Equation [[44]] 33)

Please replace the paragraph beginning on page 41, line 1 with the following: